

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

1. (Currently Amended): A radio network controller comprising:

a plurality of functional modules, ~~wherein the functional modules at least comprising:~~ including an Asynchronous Transfer Mode(ATM) interface module having at least an Iu interface module configured to provide a connection with an external core network, an Iub interface module configured to provide a connection with an external node B element, and an Iur interface module configured to provide a connection with a second radio network controller, each respective interface module being configured to convert a received ATM cell to an Internet Protocol (IP) packet;[[,]]

an interface management module having at least an Iu management module, an Iub management module, and an Iur management module, each respective management module being configured to manage connections of each of the respective interface modules;[[,]]

a radio signaling management module configured to manage broadcast signaling data received by the ATM interface module; [[and]]

a radio bearer processing module configured to process data received by the ATM interface module over a dedicated transmission channel; and[[,]] ~~characterized in that the radio network controller replaces an ATM switch with~~

an IP switching network to achieve data and signaling exchange among the [[above]] functional modules in the radio network controller.

2. (Previously Presented): The radio network controller according to Claim 1, wherein the IP switching network supports QoS.
3. (Currently Amended): The radio network controller according to Claim 1, wherein each of the functional modules respectively ~~include~~comprise at least one functional board, and the functions of each of the functional modules are respectively achieved in different functional boards.
4. (Previously Presented): The radio network controller according to Claim 1, wherein each of the functional modules are arranged in a single chassis to form a elementary unit of the radio network controller.
5. (Currently Amended): The radio network controller according to Claim 4, wherein the IP switching network includes[[is]] an IP switching module ~~disposed~~contained in the chassis, and each of the functional modules are configured to achieve[[s]] the data and signaling ~~exchange inside the radio network controller~~ by connecting with the IP switching module.
6. (Currently Amended): The radio network controller according to Claim 5[[1]], wherein the ATM interface module and the radio bearer processing module, ~~after being extended,~~ are ~~disposed~~configured in at least one extended ~~unit~~chassis, such that the radio network controller includes the~~further comprises~~ at least one extended unit of the radio network controller.

7. (Currently Amended): The radio network controller according to Claim 6, wherein the IP switching network comprises a group of IP switching modules and concentrator routing switches, wherein the IP switching module connects each of the functional modules in the elementary unit and extended unit of the radio network controller, and at least one of the concentrator routing switches connects the respective units via the IP switching module ~~in the elementary unit and extended units of the radio network controller.~~

8. (Currently Amended): The radio network controller according to Claim 6, wherein a ~~the~~ number of ~~the~~ respective interface ATM boards constituting the ATM interface module is configured according to the data flow of the respective interface~~s~~ modules and a ~~the~~ number of ~~the~~ ports required to be provided, and a ~~the~~ number of ~~the~~ radio bearer processing boards constituting the radio bearer processing module is configured according to a ~~the~~ number of the users to be supported and the data flow.

9. (Currently Amended): The radio network controller according to Claim 4, wherein each of the functional modules ~~includes~~comprise an information filling module configured to fill~~means for filling~~ in a Differential Services (DiffServ) field of an IP header to be transmitted.

10. (Currently Amended): The radio network controller according to Claim 7~~[[5]]~~, wherein at least one of the IP switching module and~~or~~ the concentrator routing switch is configured to read~~comprises reading means for reading~~ a DiffServ field of an IP header of a data package.

11. (Currently Amended): The radio network controller according to Claim 1, ~~characterized in that, wherein~~ an[[the]] interface ATM board constituting the ATM interface module is configured to achieve ATM/IP~~comprises means for achieving IP/ATM conversion, so as to provide an~~for providing a ~~standard~~ ATM interface between the radio network controller and an external network element.

12. (Currently Amended): The radio network controller according to Claim 6, wherein each of the functional modules ~~includes~~comprise an information filling module configured to fill~~means for filling~~ in a DiffServ field of an IP header to be transmitted.

13. (Currently Amended): The radio network controller according to Claim 7, wherein at least one of the IP switching module and[[or]] the concentrator routing switch is configured to read ~~comprises reading means for reading~~ a DiffServ field of an IP header of a data package.